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PREPARATIONS FOR THE SPECIAL SESSION OF THE GENERAL ASSEMBLY FOR THE PURPOSE OF AN OVERALL REVIEW AND APPRAISAL OF THE IMPLEMENTATION OF AGENDA 21

Note verbale dated 11 February 1997 from the Permanent Representative of the Netherlands to the United Nations addressed to the Secretary-General

The Permanent Representative of the Kingdom of the Netherlands to the United Nations has the honour to transmit to the Secretary-General the enclosed report of the Forward Looking Assessment on the Implementation of the Action Programme on Drinking Water and Environmental Sanitation.** This report is a contribution of France, Morocco, Tunisia and the Netherlands to the work of the Commission on Sustainable Development at its fifth session in April 1997.

Following the adoption of the Action Programme at the Interministerial Drinking Water Conference, which was hosted by the Netherlands in March 1994, and its subsequent endorsement by the Commission in 1994, the above-mentioned four countries offered to monitor the implementation of the Action Programme. Progress has been evaluated using a questionnaire and by a number of country visits. The conclusions and recommendations to the Commission which resulted from the evaluation were discussed at a meeting with the countries involved in December 1996.

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* To be issued as E/CN.17/1997/1.

** The report is being circulated in the language of submission only.

It would be highly appreciated if the report could be circulated as an official document of the Commission at its fifth session and made available to its Ad Hoc Intersessional Working Group (24 February-7 March).

The Permanent Representative of the Kingdom of the Netherlands would like to suggest that the Conclusions and the Recommendations be considered in relation to the review of Agenda 21, chapter 18, at the fifth session of the Commission.

SYNTHESIS REPORT

FORWARD LOOKING ASSESSMENT (FLA) ON THE IMPLEMENTATION OF THE ACTION PROGRAMME ON DRINKING WATER AND SANITATION

FRESH WATER RESOURCES, A MATTER OF GLOBAL CONCERN

"Our task is to find ways to help our governments to implement Chapter 18 of Agenda 21." (Noordwijk Declaration of Ministers, May 1994)

"27. Despite all the calls to action, dating back to the Mar del Plata Action Plan, adopted by the United nations Water Conference in 1977, the situation concerning urban water supply and sanitation so far has followed a steady path of deterioration. The situation is particularly alarming with regard to neglect of sanitation and inadequate attention to pollution from urban waste."

"35. A massive infusion of funding is particularly needed with regard to the provision of sanitation in urban and rural areas and for the treatment of effluents polluting river and groundwater basins. ... The discharge of untreated sewage constitutes a very serious threat to the long-term sustainable development of many river and groundwater basins. Unless urgent and effective action is taken, the neglect of sanitation and waste-water treatment may lead to disastrous health and environmental consequences, with global implications." *(Secretary-General of the United Nations in his Report to the Fiftieth session of the General Assembly, on 8 June, 1995 (A/50/213 - E/1995/87; paras. 27 & 35))*

October 1996

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FORWARD LOOKING ASSESSMENT (FLA) ON THE IMPLEMENTATION OF THE ACTION PROGRAMME ON DRINKING WATER AND SANITATION

EXECUTIVE SUMMARY

This Forward Looking Assessment (FLA) was undertaken by the four sponsoring governments (The Netherlands, France, Morocco and Tunisia) to continue the follow-up to the 1992 UN Conference on Environment and Development (UNCED) in the field of water supply and environmental sanitation. Its aim is to provide the Commission on Sustainable Development (CSD) with an up-to-date global picture of activities taken by developing countries a c external support agencies to implement the Action Programme developed by Ministers at the Ministerial Conference on Drinking Water and Environmental Sanitation in March 1994 and endorsed by CSD at its second meeting in May 1994. This picture is then developed into recommendations for accelerating progress towards the goals of Agenda 21 Chapter 18.

The FLA is based on questionnaires returned by 25 developing countries, supported by technical visits and interviews in 11 countries.

In its conclusions, detailed in Chapter 6, the FLA notes with satisfaction that UNCED and the Ministerial Conference have had a clear influence on the policies and strategies of governments. There is widespread acceptance of the principles of an integrated approach to the management of freshwater resources as a prime element of sustainable development. In the field of drinking water supply and environmental sanitation, this is accompanied by an intent to introduce policies which devolve powers to manage water supply and sanitation services to the lowest appropriate level and adopt the hydrographic basin (river catchment or aquifer) as the most appropriate unit for integrated management. Water is increasingly considered an economic good, whilst maintaining its role as a social good.

Despite these positive developments, the overall status of water supply and sanitation in developing countries remains critical. Many countries and regions are experiencing dramatic unsustainable depletion of groundwater reservoirs, while numerous major rivers have significantly decreased flows in certain periods of the year. For all water resources, including coastal waters, many areas in the world are suffering a continuing, sometimes alarming, decrease in quality. In addition there is a huge disparity between efforts and investments made by governments and external support agencies to extend water supply services and those directed at sanitation improvements. The result is an escalating crisis which demands urgent action if the goals of universal water and sanitation coverage and sustainable development are to be achieved.

The recommendations, outlined in Chapter 7, request CSD to urge countries to /...

review their policies and strategies, giving substantially increased priority to improving sanitation services and focusing on five key components of sustainability: *Social Sustainability; Environmental Sustainability; Institutional Sustainability; Financial Sustainability; and Technical Sustainability.*

In targeting ***social sustainability***, the aim is to address the basic water and sanitation needs of the unserved poor. Until these needs are met, in particular also adressing sanitation, precious freshwater resources will continue to be depleted and degraded, healthcare costs will rise, the environment will be further contaminated, economic growth will be constrained, and there will be a growing danger of civil unrest induced by inequitable use of available resources. At the end of 1994, 2,9 billion people, or two-thirds of the population of the developing world had no access to hygienic sanitation services. Among the solutions recommended are priority sanitation programmes, social mobilization, stakeholder participation, and gender-sensitive approaches which recognize the productive role that women can play in this critical area at all levels of planning and decision making and implementation.

Environmental sustainability can only be achieved if the availabillity, limited, resources are utilised in the most effective way, considering the need for all types of, sometimes consecutive, uses. Inadequencies in household sanitation and treatment of wastewaters is a treat to quality of both surface and groundwater and therefore to sustainabillity. Integrated water resources management based on national and international hydrographic basins offers opportunities for combatting pollution and conserving resources but demands concerted action to assess resources and plan their long-term management in a sustainable way.

Institutional sustainability has been a problem area in many countries. The new concepts and principles for sustainable development introduced since UNCED require redefinding the role of central Governments an enabling environment which promotes partnership among all stakeholders, devolved power and autonomy vested in local institutions, with effective regulation backed by legislation and enforcement. New skills and expertise are needed, which means that human resources development and other capacity building programmes have to be included in all water and sanitation investment plans.

Recognition that water is an economic as well as a social good has fostered new approaches to the issue of ***financial sustainability***. There is no contradiction in seeking maximum cost recovery from water and sanitation investments while at the same time giving priority to providing basic services for the unserved poor, but it does require careful consideration of tariff systems and innovative ways of mobilizing local, national and international financial resources. It requires too a recognition by governments that investments in water and sanitation bring returns not only health and environmental improvements, but also in increased opportunities for income generation, especially for women. In this way, and in others, water and sanitation investments play a key role in poverty alleviation.

In the past, ***technical sustainability*** has been a serious problem in the implementation of water and sanitation programmes. A great deal of work has been done to develop appropriate and affordable technologies. User involvement in the choice of technology and service level is a key factor in technical sustainability. This has to be achieved alongside the maintenance of national norms and standards and the protection of downstream interests. There is still scope for further applied research in key areas such as low-cost sanitation systems, sewerage and wastewater treatment, as well as the most suitable techniques for assessing user needs through studies of capacity and willingness to pay for particular levels of service.

The package of recommendations outlined in Chapter 6 offers CSD an agenda for accelerated progress towards the goals of Agenda 21 Chapter 18. It requires renewed commitments and revised priorities by governments, but is vital if the current critical destruction of the world's freshwater resources is to be reversed.

2. IMPLEMENTING AGENDA 21, A MATTER OF URGENCY

The importance of fresh water as a condition for all forms of life can not be under-estimated. Its availability for man and his life support systems, as well as for all other forms of life, is a conditio-sine-qua-non.

This importance has recently been re-affirmed at the UN Habitat Conference (May 1996) and the World Food Summit (November 1996). UNCSD, at its Session in April 1997, will have an opportunity to assess the achievements in the area of fresh water, both in terms of quality and quantity.

Recent information has highlighted the urgency of the water situation. In many regions of the world, sufficient fresh water of adequate quality is not available for the various vital life support functions. There are clear indications, that this situation is globally worsening, both in quantity and in quality.

Competition between different types of use is increasing. Archaeological ground water reservoirs are being depleted at high speed, the extraction exceeding the natural recharge by orders of magnitude in various regions. Competition between countries on fresh water resources is threatening international stability.

The quality of fresh water resources, as a consequence of rapid urbanisation and industrialisation, is rapidly degrading in many places, with potential serious consequences.

Most countries are well aware of their fresh water situation. Some countries even speak of a "water crisis". Many countries are actively taking action or exploring possibilities to do so. The urgency of the matter is such, that fresh water needs to be a high priority on the international agenda.

The Ministerial Conference on Drinking Water which was held in Noordwijk, The Netherlands (March 1994), adopted a Declaration of Ministers in the Conference's Political Statement that ***"Our task is to find ways to help our governments to implement Chapter 18 of Agenda 21."*** The Action Programme, submitted to the Commission on Sustainable Development for endorsement, was the specified vehicle for this task.

The Commission (CSD), at its Second Session in May 1994, endorsed the Action Programme requesting " ... *that countries include in their 1997 national reports a specific section on national goals and strategies in the field of drinking water and environmental sanitation, including, as appropriate, target dates, with a view to the implementation of the Action Program and with the assistance of international organizations.*"

2.1 FORWARD LOOKING ASSESSMENT

As a follow-up to the Ministerial Conference at Noordwijk, representatives of the Governments of France, Morocco, Tunisia and The Netherlands convened a meeting in Rabat, Morocco, in January 1996 and resolved to undertake a **"Forward--looking Assessment on the Implementation of the Action Programme"**.

The Rabat consultation, in stating that Noordwijk was part of a continuum of key international events contributing to defining and updating a "new agenda" on freshwater policies and strategies, stressed the importance it attached to the identification by the Forward Looking Assessment of key problems and constraints. Furthermore, it was felt that in identifying the constraints, it would be essential to identify mechanisms which could be put into place to meet same, while, simultaneously, specifying key directions for future actions by governments and the international community. Based on these considerations, the specific objectives of the Forward Looking Assessment are as follows:

- to assess key sector developments with respect to goals and strategies at country level and the degree of impact of the Action Programme proposals on them;

- to assess, on the basis of specific indicators or targets, progress achieved in the effective implementation of the Action Programme, particularly at country level;

- to identify and assess issues of a regional or international dimension, both as significant contributions to global strategies. as well as in the promotion of international support to implementation at country level;

- to assess the degree to which programmes of international support agencies effectively:

  - facilitate the integrated management of water resources and the strengthening of national institutions; and

  - develop programme delivery and loan mechanisms, which need to take into account the water supply and environmental sanitation crisis.

2.2 ORGANISATION OF THE FORWARD LOOKING ASSESSMENT

Under the direction of The Netherlands Ministry of Housing, Physical Planning and the Environment and with the guidance of a Steering Committee of the four countries, the execution of the Forward Looking Assessment has been consigned to Alexander H. Rotival, as principal consultant, assisted by a team of the International Reference Centre for Community Water Supply and Sanitation (IRC) of The Hague.

The Forward Looking Assessment consisted of two major parts: a

questionnaire, sent to a number of participants at the 1994 Ministerial Conference, supplemented with visits to eleven developing countries in the various regions of the world, selected on the basis of geographical representativity.

2.3 STRUCTURE OF THIS SYNTHESIS REPORT

The methodology used in the Forward Looking Assessment is explained in Chapter 3. Results of the questionnaire are given in Chapter 4 of this report, information on the country visits has been summarised in Chapter 5. Major findings from the questionnaires and from the country visits are summarised and conclusions concerning the four objectives of the assessment are drawn in Chapter 6. Finally, Chapter 7 offers recommendations for further follow-up actions. Details are given in various annexes as indicated in the respective chapters.

3 METHODOLOGY

3.1. Instruments

Two instruments have been developed for the execution of the assessment :

* a questionnaire consisting of two parts, one for the consideration of all Heads of Delegation to the Ministerial Conference, and one part for Senior Expert delegates;
* country visits to eleven geographically selected countries.

3.1.1 The questionnaire

The first part of the questionnaire consisted of 5 open questions for the Heads of Delegation. The second part had 29 open questions for Senior Expert delegates.

All questions were developed on the basis of a list of indicators following the four objectives of the assessment (see paragraph 1.1.)

These indicators are directly related to the Political Statement and the Action Plan of the Ministerial Conference. Not all issues discussed in these documents have been included in the indicators, and not all issues have received equal emphasis. Key issues had to be selected, to keep the questionnaire within manageable limits. These key issues can be grouped under the following headings :

. **Water and People,**
with an emphasis on public awareness, social mobilization, and participation
. **Water, Health and the Environment,**
with an emphasis on increased coverage, and of the management and monitoring of water resources
. **Water and Institutions,**
with an emphasis on the changing role of governments, and inter-sectorial cooperation
. **Water and Mobilizing Financial Resources,**
with an emphasis on financial management, cost recovery, and pricing policy
. **Water and the world,**

The list of indicators has also been utilized for the analysis of answers to the questionnaires. The questionnaire has been sent only to participants from developing countries in Africa, Asia, Latin America, and to countries in Eastern Europe and from the former Soviet Union.

From the following countries answers to the questionnaires have been received:

. Antigua and Barbuda
. Bolivia
. Cuba
. Eritrea
. Mexico
. Nigeria
. Slovakia
. Tunisia
. Argentina
. Brazil
. Czech Republic
. Guinea-Buissau
. Morocco
. Philippines
. Sri Lanka
. Turkey
. Bhutan
. China
. Egypt
. Indonesia
. Namibia
. Senegal
. Tanzania

3.2 Organization of the Country Visits

3.2.1 Criteria for the Selection of Countries

Selection criteria for country visits emphasizes, as a basic and essential requirement, participation in the Ministerial Conference at Noordwijk, with participation in the preparatory work of the International Steering Committee (ISC) being considered an additional positive factor.

Selection criteria was further refined to enhance geographical representation.

3.2.2 Selection and organisation of visits

Eleven countries were selected, on a geographical basis, for visits, with the aim to having discussions at ministerial and senior official levels, as well as with senior experts and other national partners, on a multisectoral basis. The final selection was a reflection of the countries' willingness and ability to receive the FLA teams.

The eleven countries are:

. Brazil
. Jordan
. Philippines
. Tanzania
. China
. Mexico
. Poland
. Uzbekistan
. Indonesia
. Namibia
. Senegal

The country visits have been conceived as a necessary addition to the questionnaire, to go more deeply into the issues raised and to get a more complete understanding of planning and activities undertaken in general.

The visiting teams underlined that the purpose of the Forward Looking Assessment was not to prepare a judgmental country report, but rather a generic

report on key issues that have either been successfully addressed or which remain to be adequately addressed, utilizing the information obtained during the country visits on an illustrative, or case study, basis. In this context, country officials expressed keen interest in the identification of the key issues, at a policy or strategic level, facing drinking water and environmental sanitation, in the context of integrated water resources management, including elements of "communality" in issues between countries visited.

In country consultations have been held not only with ministerial level officials responsible for the environment and water resources/water supply and environmental sanitation as well as with senior experts and other national partners. Contact, at a senior level, with ministries responsible for development cooperation and economic affairs/finance were held. Visits to key sector projects took place.

The Forward Looking Assessment team consisted, in all cases except Brazil and Jordan, of one senior official from The Netherlands, and/or representative of one of the other co-sponsoring countries (Senegal: Mr. Jaouhari and Poland: Mr. Kaczmarek) and Mr. Alexander H. Rotival or an IRC-expert (Tanzania, Brazil). In Brazil, the visit was undertaken by a team from IRC, the subcontractor, and in Jordan, by the Principal consultant alone. In preparation for the visits, questionnaires based on the Action Programme, focused on both ministerial and senior technical level officials, were transmitted to governments.

The country visits are briefly described in chapter 5.1. On the basis of the information collected during the country visits some generic findings have been formulated.

4. RESULTS OF THE QUESTIONNAIRE

A total of 46 countries has received the questionnaire; 25 countries have sent in their answers. The answers of 21 countries are included in these results. 3 Countries have only answered part 1, respectively part 2 of the questionnaire.

The analysis has generally provided a good impression of planning and actions undertaken, in particular with a view on the key issues mentioned above. Many answers to the questionnaire indicated a strong involvement of governments in the sector, and expressed positive reactions on the Ministerial Conference, including the need for follow-up (see Chapter 4.1.3 and 4.1.4).

4.1. Results of questionnaire concerning :

objective no. 1 ***To assess the degree of impact and influence of proposals in the Action Programme on national goals and strategies. In this context it will also be essential to address key sector developments since the Ministerial Conference of March 1994***

4.1.1. General

A number of countries have indicated that **intentions and policies** have been formulated with the following key issues :

- initiating inventories of water resources at national level; in some cases resulting in Water Master Plans
  integrated river basin management
- setting up a national data base on water supply and sanitation, for effective monitoring
- modernization of the sanitation sector
- creating a national body for management and allocation of water resources
- commercialization of water agencies
- privatization of water supply and sanitation services
- creating a new cost recovery policy

Some countries have set up **National Action Plans** with the following key issues :

- installation of environmental sanitation and sewerage
- establishment of a national monitoring system for water supply and sanitation
- setting up legislation and guidelines for use and saving of water
- development of a program for cholera prevention
- increased community involvement, specifically for financial reasons
- cost recovery of water supply and sanitation

Specific issues mentioned as being **under implementation** are the following :

- increased coverage of water supply and sanitation, in rural and urban areas
- increased training of staff
- implementation of monitoring systems, concerning health data, data on water supply and sanitation, and water resources
- inter-sectoral coordination structures
- decentralized management structures
- inclusion of private sector
- integrated river basin management
- commercialization of water agencies

It is to be noted that in different countries certain key issues appear to be in various stages of implementation.

4.1.2. Specific issues

A selection of key developments in the sector based on the Political Statement and the Action Program of the Ministerial Conference, has been made for inclusion in this investigation. They have been mentioned in Chapter 3.1.

On the issue of the **changing role of governments**, some respondents mentioned a (desired) change in management practices from supply driven towards demand driven management. Also planning and initiation of changes towards a commercialization of water agencies have been reported. So far, among the respondents no complete commercialization has taken place. Where it is initiated, the government remains the main or only shareholder.

Most answers describe changes in government roles in terms of **decentralization**: provincial councils, local communities, Non-Governmental Organisations and private sector are progressively in charge of construction of facilities and service rendering.
Decentralization is defined also in terms of increasing decision making and taking up of responsibilities by water committees at community level. The most important objective of decentralization mentioned is to enable the public at grassroots level to participate in the selection of water sources, location of water points, actual construction, and in operation and maintenance. In this way it is hoped that at least part of the investments and running costs will be recovered.

From the answers to questions concerning the establishment and funding of **national resource** centres it seems that at present only a few countries have a well-established centre. A number of respondents mentioned research institutes and training centres in their country.

Inter-sectoral collaboration at government/ministerial level seems to be well established : only a few did not have some mechanism for collaboration. Some countries even mentioned more than one body. Usually a council or committee has been established for an integrated approach toward water supply, sanitation, and health aspects. In some cases there is also collaboration in Water Resources Management, including river basin management, usually under the guidance of an Environmental Department or Institution.

Concerning **cost recovery**, it can be concluded that the need for recovery of operation and maintenance costs is commonly accepted. The answers on the questionnaires do not give any insight in appropriate approaches for this cost recovery.
At present, only one country applies full cost recovery in its tariff system; however, in many cases intentions and planning for new policies are being reported.

In urban centres with many metered connections operation and maintenance costs are mostly included in the tariffs. Water supply in low income areas in urban centres is usually subsidized through a system of progressive rates.
In rural areas there are more problems with cost recovery. Most donors require nowadays recovery of at least the operation and maintenance costs, whereas investment costs are seldom taken into consideration. Usually the community contributes in kind towards construction.

4.1.3. Direct impressions of participants at the Ministerial Conference

In the questionnaires only a few countries have given explicitly positive reactions on the Ministerial Conference. They indicate results particularly in terms of having gained more insight in problems and solutions.

> *" The topics discussed and issues considered at the conference are of considerable importance and relevance to our national efforts regarding water resources development and management. As such, we believe that the conference has given us a better insight into the set of development-related problems that we are presently tackling (...). We are also convinced that we stand to gain a lot more from follow-up activities."*

A number of them expressed their need for follow-up. Most important issues to be addressed in a follow-up : exchange of information, combined with capacity development; need for more financial and technical support. One Eastern-European country proposed a common system and methodology for gathering and analysis of

statistical data, to facilitate comparison of data.

In a number of letters accompanying the submission of the completed questionnaires respondents expressed their appreciation for having been given the opportunity to contribute to the assessment. The continued attention given to the cause of drinking water supply and environmental sanitation in particular has been highly valued.

As one of the respondents communicated

> .... *and thank you immensely for the sustained activity on this very important issues by keeping the pressure on our quest to ensure that all people of the world get good drinking water and live in environmentally sanitary conditions.*

4.2 Results of the questionnaire concerning :

objective no. 2 ***To assess on the basis of specific indicators or targets, progress achieved since the Ministerial Conference in the effective implementation of the Action Programme particularly at country level.***

Specific indicators for progress achieved (following closely the key issues defined in the Action Programme from the Ministerial Conference) are: public awareness and social mobilization, partnership approaches, water resources management, monitoring systems, introduction of cost recovery and pricing policies.

4.2.1 Public awareness and social mobilization

The majority of countries report **campaigns for the creation of public awareness**. Those campaigns include radio and TV broadcasts, newspaper and other publications, instruction materials (guidelines, manuals), and public rallies. Subjects mentioned are : health and hygiene, sanitation, and sometimes also water scarcity, and the need for water saving and a sustainable use of water sources.

Activities for **social mobilization** are reported by a majority of the countries, mostly through promoting community participation in water supply and sanitation programmes and projects. In the answers water and sanitation are linked together, but the emphasis is mostly on water.

Like for public awareness, most mobilization seems to be done through government structures, with cooperation or funding from donors mentioned in a few cases. Non-Governmental Organisation involvement is reported only once.

4.2.2 Partnership approaches

Allmost all the countries answered questions concerning the development and promotion of **partnership approaches.**
In some countries plans are being developed for partnership with the private sector. Only a few countries are working toward full commercialization and privatization. Others mentioned intentions to more involvement of the private sector. However, in most cases the extent and content of partnership with the private sector is not yet completely clear :

> *"The partnership and participation between state, private, financial, political, health and water economy bodies have not been fully developed, even as yet for the legislation aspect."*

A minority of the countries report the establishment of Village Water Committees, for the operation and maintenance of water points. The focus in community participation efforts seems to be mainly on rural areas : only two countries mentioned specifically participation of urban users in the development of water payment, and in sanitation programmes. Only one country indicated the importance of taking gender issues into account in participatory approaches.

The somewhat vague answers concerning community participation may very well be related to general problems with the concept and its implementation. One country stated that its government policy on community participation had been approved for some time, with apparently good concepts, but it had proved to be very difficult to implement.

4.2.3 Water Resources Management

A majority of the countries indicate that the **legal framework for water resource management** is already in place or in the process of being approved by parliament (a few). It is to be noticed that a few countries report that the legal framework was constituted within the last six years.
The **institutional** entities in charge of water resource management at the highest level appear to be in most case either a Ministry of Environment or a National Institute or Board for Water Resources which may point to the conclusion that water resource management is considered to be a cross sectoral issue. In some cases can it been reported that there is a line ministry or department in charge of water resource management.

Planning and management of water resources through a **river basin approach** is increasingly being applied. River Basin Authorities are reported to be established for national as well as transboundary river basins. About half of the respondents confirm having introduced river basin management at national and international level.

On the question whether a long term policy exists for the **distribution (and use) of available water,** some misunderstanding in the interpretation of the question has been noted. Some countries refer to the distribution (and use) of water for drinking and sanitation only. Of those who replied affirmatively a majority refer to existing legal arrangements for national water resources, research and development. Only one country gives some indications as to how the distribution is being organized:

> *"...priorities have been defined (for fair distribution), according to economic, environmental, and health criteria."*

As to a system for distribution of water, comparison of the answers reveals that where in a majority of the countries a policy exists for the distribution of fresh water (previous paragraph) only about half of the countries do mention to have a **system for rational and equitable distribution.** Drinking water for domestic use is figuring high on the list of priorities as far as any priorities are indicated in the answers. **Monitoring of the distribution** is practised at different levels. Some countries refer to the levels of state and municipality, others to the national government. Only about half of the countries explicitly state to have a monitoring system.

Water resource assessments have been undertaken in a majority of the countries. The results are used in policy and planning. Some respondents mention that such plans are already for long time in existence and are also regularly updated.

> *.."There exists a long term directive water economy plan which has a more than 100-year tradition in [the country]. Regularly after several decades the plan is updated and added to, according to the real situation and needs... "*

The number of **relevant studies undertaken, related to water resource management** is impressive. Studies on users demand, socio-economic situation of users, water quality, discharge and treated wastewater, regional ground water situation, catchment and management, optimizing water management etc are carried out.

4.2.4 Monitoring systems

The importance of nation-wide drinking water and environmental sanitation monitoring systems has been widely recognized : A majority of the countries report on regulations and laws concerning the development and use of water quality standards; control and preservation of water resources; control of water use; control of wastewater disposal and water pollution. But only a minority of those countries have been able so far to establish appropriate monitoring systems to monitor their country's water resources, water supply and environmental sanitation, mostly by setting up laboratories, and monitoring and information centres or institutes. some more countries have developed plans in that direction, and some others report the execution of relevant studies on water resources and water quality.

4.3 Results of the questionnaire concerning :

objective no. 3 ***To identify and assess issues of a regional or international dimension, both as significant contributions to global strategies, as well as in the promotion of international support to implementation at country level.***

4.3.1 Adequacy of international networks and interflow of information

The countries were asked to assess the adequacy of international networks and interflow of information, and to make proposals for any needed improvements. Of the countries which responded to these questions, a majority said that neither the international networks nor the interflow of information are adequately meeting their needs. Lack of infrastructure and equipment (an adequate computer system) and lack of expertise were the reasons most frequently mentioned.
Most proposals for improvement of international communication on water supply and sanitation focused on more financial and technical support, in particular capacity development. Some countries made recommendations for the establishment of a common methodology for data gathering and processing, to make comparison of data easier. Such data then could be collected in a regional, international centre and from there further disseminated. Also, an emphasis was made on the need to exchange data among developing countries in one region, as well as with industrialized, developed countries; at present the flow of information is felt to be often quite one-sided.

Another important suggestion was made concerning data on environmental sanitation. Most existing data concerns water supply, there is almost nothing available on sanitation. As we could see in every case environmental sanitation is the responsability of the ministry of Health.

4.3.2 National reporting to the Commission for Sustainable Development.

The importance of including a section on drinking water and environmental sanitation in National Reports to the UN Commission for Sustainable Development seems to be commonly recognized : a majority of countries had submitted already such a Report, or confirmed their plans to do so. Some countries indicated a need for guidelines, or a format, for writing their report.

Some answers included important policy issues discussed in the Report, for example : achieving a balance between population and available natural resources; improving the urban environment, especially in large cities; enhanced private sector participation; enhanced social participation; special inputs for underdeveloped areas in the country.

4.3.3 Participation in regional inter-country cooperation.

Regional intercountry cooperation is widely practised among the respondents : a majority of the countries have established some form of joint river basin management or water resources management in their region, whereas one country is studying this subject. The joint management is usually in the hands of a special international commission or institution, establish for this purpose. It includes monitoring of surface and ground water resources, with in some cases also an Action Plan for protection and conservation of resources and for monitoring of wastewater discharges and common treatment of wastewater in frontier zones.

Further issues mentioned are joint training, conferences, technology and information exchange. The importance is stressed of developing international laws on intercountry management of water resources and on equitable utilization and distribution of water.

4.4. Results of the questionnaire concerning :

objective no. 4 ***To assess the degree to which the programmes of international support agencies effectively : (i) facilitate the integrated management of water resources and the strengthening of national institutions; and (ii) develop programme delivery and loan mechanisms which need to take into account the water supply and environmental sanitation crisis.***

As respondents in their answers made no distinction between the two aspects of the question, these are also grouped together here.
A majority of the countries reported internationally supported programmes and

projects for integrated management of water resources as well as strengthening of national institutions in their countries. Some of them underlined the effectiveness of these efforts :

> *"ESA (External Support Agencies, programmes have so far greatly facilitated our national efforts (...) ESA played also a crucial role in the progress of water supply development and rehabilitation in both urban and rural areas."*

5. COUNTRY VISITS

Eleven countries were visited, in the following order, between the end of March and mid- September 1996: Senegal, Poland, Uzbekistan, Tanzania, Indonesia, Namibia, The Philippines, P.R. China, Mexico, Brazil and Jordan. The majority, nine country visits, took place during the months of July and August.
The visits offered an opportunity to discuss important questions with high ranking officials, both politicians and policy makers and those involved in implementation. The information collected during these visits is regarded as a brief impression of national situations and policies, not as authoritative information on country performances.

This chapter describes a number of generic issues, that appeared to be of major relevance to most or all of the countries visited.

5.1. SOME MAJOR DEVELOPMENTS IN THE COUNTRIES VISITED

5.1.a. Senegal -

Senegal is in the process of implementing, with the support of The World Bank and bilateral donors, a major long-term strategy for the integrated development of water resources. This strategy focuses on sustainability (management, pricing and cost recovery), poverty alleviation and health (access to potable water & sanitation) and the viability of institutions, including private sector participation. Key aspects of Senegal's overall policies and strategies concern the creation of a lead agency for integrated water resources management; an emphasis on public awareness and stakeholder participation by the creation of a High Council on Water; priority to environmental sanitation integrating wastewater, solid wastes and drainage under the responsibility of a high visibility institution; and priority to dovetailing national strategies with interstate cooperation.

5.1.b. Poland -

From a policy and strategic perspective, a principle area of reform, in strengthening water management, is to transfer municipal water and wastewater enterprises into autonomous commercially run utilities under the regulatory control of local government. This process involves, progressively, privatization. Awaiting Parliamentary approval is the Law approving integrated water resources management on a basin approach.

The OECD's Environment Performance Review on Poland states as follows: "... significant environmental improvements have been achieved in Poland since 1989. This is largely as a result of the contraction of economic activity and the restructuring of the industrial and energy sectors, but also as a result of environmental policies adopted and implemented."

5.1.c. Uzbekistan -

Uzbekistan is facing a major problem of water scarcity, both quantitatively and qualitatively, aggravated by the desiccation of the Aral Sea. Furthermore, Uzbekistan, with the management of water resources largely tributary to Central Asian interstate cooperation, is facing a major policy and strategic revolution, as it shifts, with respect to policy and institutions, from a command to a market-led economy. The key elements are predicated on an understanding that water pricing and full cost recovery can only be achieved as part of a simultaneously implemented package including land and agricultural reform, with, as a precondition, users rights to water and land as well as the availability of credit.

Demand management, while mentioned as a concept, which it would be desirable and even necessary to apply, in the future, is still not fully understood and so tied in with the overall reform and restructuring of a long-standing command economy, that it gives way to the immediate imperatives of economic development and production, as well as the reduction or, at least, stabilization of un- and underemployment.

Water pricing and full cost recovery can only be achieved as part of a simultaneosly implemented package including land and agricultural reform. This must include as prerequisites and key components farmer rights to water, land and credit.

5.1.d. Tanzania -

The water sector is one of Tanzania's priority development areas. It is moving towards a water basin approach for water resources management including interaction with environmental issues nationally as well as internationally. The government's policy encourages demand management including the participatory approach, as well as a gradual move towards privatization.

Drinking water supply has become a high priority-issue on the political agenda. Less attention is being given to environmental sanitation. Although Governments recognizes that both sectors are linked, it is not actively taken up in urban areas.

5.1.e. Indonesia -

The participatory approach is the focus of major urban and rural initiatives for water supply. Full cost recovery is an official objective as is enhancing private sector involvement particularly with respect to water supply. The government has as an objective the establishment of a key lead agency for integrated water resources management and policy initiatives are in progress to enhance the basin approach to water management. The interfacing of integrated water management with a similar approach to urban infrastructure is an innovative factor in Indonesia's policy framework. Urban wastewater management is not a short term objective for all major cities.

Integrated water resources management linking, i.a. drinking water supply and environmental sanitation has not been given full consideration.

5.1.f. Namibia -

Notably, as a result of a policy decision to rationalize the civil service, the Dept. of Water Affairs of Ministry of Agriculture, Water and Rural Development has undergone a major reorganization to become a facilitator rather than, as was previously the case, a supplier of water. The supply of water becomes the responsibility of a state-owned commercial corporation. Full cost recovery is mandated within a period of 5-10 years.

Other key areas of sector policy and management, concern public awareness and social mobilization, which have contributed to a "willingness-to-pay" by the population; emphasis on the participatory approach, in both rural and urban areas, in and of itself a reflection of the decentralisation of management responsibilities by central government; heightened interdepartmental cooperation; and, by The City of Windhoek, a long-standing (27 years) initiative to reclaim domestic sewage effluent to augment the potable water supply.

In the field of rural drinking water supply the Government cooperates through partnerships with community-based water committees. These have been active in mobilizing rural communitees. Collecting of operations and maintenance costs for waterpoints is undertaken as a step towards full cost recovery by these committees.

5.1.g. The Philippines -

In recognition of the emerging crisis in the water supply sector caused by increasing demand and scarcity of reliable water resources, the government has initiated a number of key actions and studies including: a Water Supply and Sanitation sector reform study, a national urban sewerage and sanitation sector study, resolutions under the authority of National Economic Development Authority (NEDA) with respect to decentralization of authority to local government units and privatization of water districts. These policy initiatives were enshrined in a

Conference on Water Resources Development and Sanitation in 1994 leading to a National Water Summit under the Republics highest authority.

The governments' commitment to the participatory approach and demand management is exemplified by the establishment of Barangay Waterworks and Sanitation Associations (BWSA's), in urban and rural communities. These BWSA's assume full responsibility for Operation and Maintance including depreciation costs of the Water Supply and Sanitation system.

The government recognizes the need for institutional reorganisations and strengthening to achieve real integrated water resource management, involving sanitation, wastewater and solid wastes and surface water drainage. State policy is to move progressively to a basin approach in water resources including land use planning and management.

The Philippines give extensive support to the provincial and local authorities for an effective implementation, both in technology and services and in training programmes and institutional strengthening.

5.1.h. Peoples Republic of China -

In the context of rapidly increasing urbanization and economic growth in general, the demands made on water resources, particularly in North and Northwest China, are largely exceeding supply, also resulting in still increasing water pollution. This being said, the provision of water supply and wastewater treatment facilities, to urban inhabitants, is a high priority.

Progress in developing safe and accessible water supplies for rural populations is demonstrated by the fact that coverage more than doubled between 1985 and 1993. In this context, The States' attention has been focused on the provision of human services, initially in rural areas, in the context of the commune household economy system.

Special mention should be made of "China's Agenda 21: White Paper on China's Population, Environment and Development in the 21st Century". This Paper, which was adopted by The State Council in March 1994, makes China one of the first "industrializing" country to promulgate a comprehensive national plan for sustainable development following the 1992 Earth Summit at Rio.

5.1.i. Mexico -

The key governmental institution responsible for planning, administration and financing (at Federal level), issuing of permits as well as enforcement and reglementary powers for water resources, on a holistic basis, is the National Water Commission (CNA), an autonomous and decentralized entity under the Environment, Natural Resources and Fisheries Secretariat (SEMARNAP).

The structure and wide responsibilities of SEMARNAP for the environment and natural resources provides the counterpoint, from the governmental institutional perspective, for effective integrated planning, management and implementation. Furthermore, the policy framework for watershed or basin management involves not only an integrated approach to water resources but further integration into natural resources. It is noted that a decision has been made to adopt the basin management approach.

Mexico has fully de-centralised responsibilities for both water supply and sanitation facilities to the local governments. CNA's role therefore is in transition, the implementing tasks being gradually abandoned or transferred, with the exception of some major projects of national significance.

5.1.j. Brazil -

The rapid increase in urban population and the lack of land use planning' in urban areas has contributed to the precariousness of facilities including: lack or inefficient Water Supply and Sanitation and drainage, solid waste collection, wastewater treatment, low-income and the prevalence of high density squatter communities. All of these have led, *inter alia*, to contamination of surface and ground water. The economic crisis facing the country (added to the inefficiency of conventional systems in reaching the poor) stimulated the development of low-cost alternative solutions, such as the *Condominial* approach on sanitation and an integrated low cost urban infrastructure approach, now under implementation.

Since 1995, the integration of water resources management has gained momentum with the establishment of the National Secretariat for Water Resources (NSWR). The secretariat proposes guidelines for implementation such as coordination among the three levels of government, decentralization of activities, the encouragement of institutional and financial cooperation among users, as well as stimulating participation of communities.

5.1.k. Jordan -

In respect of the availability of water resources, Jordan is facing an absolute water shortage, with present demand exceeding supply capacity by 25 percent. While agricultural use of available water resources is 73 percent, the working hypothesis is that municipal including households and industrial use will increase from 26 percent to 55 percent of water availability in the year 2005.

The above situation and prospects requires an optimal and integrated use of resources and known potential, which will involve important tradeoffs, in the immediate future, some already in process, between the allocation of water for irrigation and priority to domestic, commercial and industrial use, reflecting social and

value added factors. The first recognized priority is the strengthening of sector policy formulation and planning by the effective integration of the management of water resources. This also involves an enhanced participatory process including introducing a mechanism for "stakeholder" involvement with reference to the rational use and conservation of water. High priority is also given to involvement of the private sector, in combination with full cost recovery. With respect to privatization priority is given, on a concessional basis, to the provision of water and wastewater services to Greater Amman, which represents some 80 percent of the total population of Jordan.

5.2 GENERIC ISSUES FROM COUNTRY VISITS

The following is a brief synopsis on the generic issues discussed during the visits to the eleven countries:

5.2.a. - Coverage of the population with drinking water supply and sanitation facilities.

By using the data of the visits it is clear, that there is an ongoing major effort to increase the level of drinking water supply and, to a much lesser extent, of sanitation. This applies both to urban and rural coverage. Two major elements however need to be stressed.

With regard to drinking water, major parts of support programmes address situations in which previous supply systems are re-habilitated, often after limited service-periods. Apparently, there is often a major problem with maintenance of facilities, which needs to be addressed with the population concerned.

With regard to sanitation, this seems not to be of high relevance to both population and authorities in many countries or regions. The negative impact this may have on both human heath and on quality of water resources, including sources of potable water, is not always fully perceived.

5.2.b. - Participatory approach The issue of participatory approach is considered very relevant in most countries. Involving the populations, as beneficiaries, both in urban and rural areas, in their awareness and mobilisation for water supply for various types of use, including drinking water and irrigation, seems to be the common direction in which countries move. This could be strengthened, if these beneficiaries would not only be consulted, but be involved in real decision making with regard to issues like level of supply, maintenance and tarification.

5.2.g. - Flow and use of information.

Many countries report a remarkable lack of insight in what seems to be essential information with regard to water use, such as actual extraction by various users and situation and trends in quality and quantity of major resources. Often, supporting data are said to be collected, but not summarised in a systematic way nor available in the framework of overall planning or remedial action.

5.2.h. - Capacity building.

Simultaneously with decentralisation of responsibilities to local authorities, some countries report extensive support in capacity building, to allow for adequate implementation at local levels (a.o. Philippines). Others report various types of training for local monitoring of water quality and its impact on health. No quantitative insight could be obtained with regard to total effectiveness, but several countries requested follow-up activities in this area.

5.2.i. - Technology.

Some interesting examples of the role of technology have been recorded. Some countries (Namibia, Brazil) have effective systems for purification and re-use of wastewater. Some have introduced systems of double networks/distribution systems for different quality of water, depending on its intended use.
Some experiences with water harvesting is being gained (Jordan).
At the other hand, examples have bene mentioned of donor-driven choices of technology, which are not necessarily most adapted to local situations, either in form of acceptance or in availability of spare parts and repair possibilities.

5.2.j. - Role of external agencies

While officials in the majority of countries expressed basic satisfaction with the support of External Support Agencies, there were indications of the lack of full compliance by External Support Agencies with governments' policies and strategies. Specifically, the following timeworn problems were mentioned: donor's dealing directly with recipient communities, bypassing the central government mechanisms for programme management;
unadapted hardware (technology), which could neither be served or repaired in-country; tight deadlines for the provision of External Support Agencies support, which do not take into sufficient consideration such "software" issues as the time needed to mobilize and sensitize a community; donor mandated technological options or levels of service (e.g. hand pumps), which, arbitrarily, do not take into consideration the communities expressed priorities for service levels, in spite of their assurances of willingness and ability to pay.
In addition, it was interesting to note, particularly from representatives of External

Support Agencies, complaints, with respect to their own inputs, on lack of consultation on activities, leading to overlapping or incoherence in the delivery of support to governments.

5.2.k. - Agenda 21. The programmed preparation of a National Agenda 21 Plan has in several countries enhanced participation in the UNCSD Agenda 21 review process, reinforced the role and visibility of GCEP under whose auspices the Plan has been prepared, and constitutes a needed update of National Environment Strategies (a.o China, Jordan, Mexico, Uzbekistan).

6. FINDINGS AND CONCLUSIONS

This Chapter summarises the major issues and findings from both the questionnaires and the country visits, supplemented where appropriate by published data from global monitoring of water supply and sanitation progress undertaken by UNICEF and the World Health Organization.

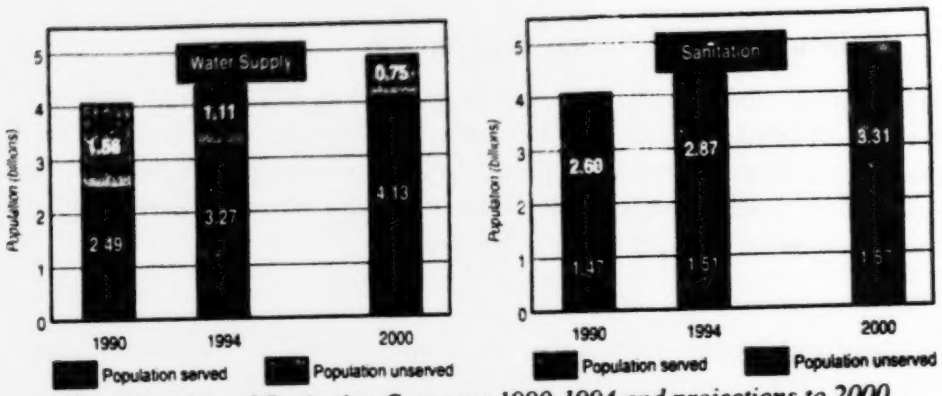
6.1. General

Since the Earth Summit in Rio de Janeiro in June 1992 and the Ministerial Conference in Noordwijk in 1994, countries have demonstrated a growing awareness of water-related problems and solutions. There is however a marked contrast between the significant progress achieved in extending water supply coverage compared with a depressing yearly increase in the numbers of people lacking proper sanitation services. Neglect of sanitation and wastewater treatment is already damaging public health and the environment, threatening the sustainability of freshwater resources, and constraining economic growth. Reversing this destructive trend has to be a high priority if the goals of universal water and sanitation coverage and sustainable development are to be achieved.

The Forward Looking Assessment has noted many positive developments which point the way to future progress, but also a need for a change of emphasis in some critical areas. In particular:

a. Despite rapid population growth, especially in major cities, there has been a significant increase in water supply coverage, in both urban and rural areas. Data collected through the WHO/UNICEF Joint Water Supply and Sanitation Monitoring Programme show that in the developping world an additional 780 million people gained access to improved water supply services in the four years from 1990 to 1994, raising coverage from 61% to 75%. With the same rate of progress to the end of the century, coverage would rise to 85%, still well short of the universal coverage goal, but with the number of people lacking access to safe water halved in ten years from 1,6 billion to 750 million. Extra impetus and wider replication of successful approaches could improve on this projection. It should be noted that these data give no insight in the degree to which facilities are in real effective use.

b. Sanitation coverage declined over the four years from 36% in 1990 to 34% in 1994. That means that 2,9 billion people had no hygienic sanitation services at the end of 1994 – 270 million more than in 1990. Similar stagnation to the end of the century would see the number unserved rise to a deplorable 3.3 billion, more than two thirds of the developing world population.



Water Supply and Sanitation Coverage 1990-1994 and projections to 2000
(Source: Water Supply and Sanitation Sector Monitoring Report 1996 (WHO, Geneva)

c. There is a clear trend of governments devolving responsibilities for the management of water supply and sanitation services to local governments or organizations, bringing decision making closer to the beneficiaries. This is combined with major efforts to provide adequate tools to equip agencies at all levels to undertake these responsibilities.

d. Many countries have ongoing efforts to implement a more integrated approach to the management of fresh water resources, often combined with efforts to involve the various stakeholders at each stage of planning and decision making.

e. There are signs that the hydrographic basin (river catchment or aquifer) is increasingly being recognized as the optimum management unit for the integrated approach to both national and international water resources management. Basin-based approaches are gradually being implemented, though they continue to pose considerable institutional and political challenges.

f. Traditionally water has been considered a social good. Increasingly though it is also been recognised as an economic good, for which fair prices need to be paid. Policies are gradually being implemented to reflect this principle in actual practice, though it is limited to recovering costs of operation and maintenance in many cases.

Though this analysis shows many positive developments, they have not been able so far to counterbalance the continuing deterioration of fresh water resources, both in terms of quantity and quality. Many countries and regions are experiencing dramatic unsustainable depletion of groundwater reservoirs, while numerous major rivers have significantly decreased flows in certain periods of the year. For all water resources, including coastal waters, many areas in the world ae suffering a continuing, sometimes alarming, decrease in quality.

6.2 Implementing the Action Programme

To ensure comparability with the Action Programme agreed at the Ministerial Conference on Drinking Water and Environmental Sanitation at Noordwijk in 1994 and endorsed at the second meeting of the Commission on Sustainable Development in June 1994, the same chapter headings and designations are utilized to present the detailed conclusions from the Forward Looking Assessment:

1. *Water and People - bringing about partnership and behavioural change*

a Most countries are implementing policies to involve the various stakeholders in water management at appropriate levels. Increasing public awareness and social mobilization is sometimes combined with involvement in decision making of the populations concerned. Although most examples refer to the active - indeed proactive - participation of *rural* populations, using water supply and sanitation as an entry point for community development and improvement, there are also encouraging examples of a similar kind in urban settings. In most cases, however, the scope is limited to water supply, with little or no emphasis on sanitation.

b. Participation is being extended to involve all stakeholders. Stakeholders go beyond the state and government and its institutions and include all those actors, in society, contributing to or being affected by a given activity. In many countries, establishment of a mechanism or a forum where all actors in a country can interact "on a level playing field" is becoming an imperative for communicating a given policy and receiving a measured and objective feedback. Despite this, the marketing and build-up of public support for such issues as tariffication, privatization and an integrated approach to water resource management, is not yet being given sufficient attention.

c. Access to water supply and sanitation is clearly linked to other issues of community development and the building of self-sustained communities, such as water rights, access to credit facilities, long-term land tenure, real prospects for income generation. This is being reflected in programmes in several countries, in both rural and urban settings.

d. The integration of traditional modes of organizing local society, including hierarchical structures anchored in the traditions of the community - so-called local self-administered bodies, is being seen as a helpful way of reaching population groups and, therefore, in social mobilization and participation of communities.

e. There is very little evidence that systematic exchange of experience, as part of a mutual learning process, is being undertaken either regionally or on an interregional basis.

2. *Water, Health and the Environment* - *integrating water policy*

a. Most of the countries have either approved or are actively considering the integrated management of water resources through a basin-based approach, and are exploring or implementing the necessary institutional arrangements. It is also noted, in this context, that several countries consider that it is necessary to go beyond water resources to a more all-inclusive natural resources context. Indications are that to make integrated water resource management fully effective a lead agency is needed with formal and effective authority and an adequate position in the central government structure.

b. Many countries give lower priority to environmental sanitation compared with water supply, both in policy and investment. This seems particularly surprising in countries facing water scarcity, which is related in substantial part to serious deterioration of water quality caused by increasing uncontrolled discharges of effluent. However the level of priority for wastewater treatment does seem to increase when pollution levels affect economic imperatives such as export earnings.

c. In a majority of countries, an integrated approach to policy and management is still lacking with respect to solid and liquid wastes (including hazardous wastes) and the related issue of surface water drainage.

d. Although a number of countries face water shortages, sometimes leading to intermittent supplies, with one or two notable exceptions, little attention is being given to introducing or reintroducing non-conventional sources of water supply such as water harvesting or the reuse of wastewater.

e. Most countries do have systems of monitoring quality and quantity of fresh water resources. However data are mostly not available in a systematic way and are not normally used in planning and decision making.

3. *Water and Institutions* - *organizing service provision*

a. Most countries have implemented decentralization of water supply and sanitation management, with a concomitant evolution in the role of government from a provider to a facilitator. Privatization of utilities, or, at the very least, their transformation into managerially and financially autonomous organizations, has become a preferred option.

b. It has been clearly indicated that enforcement of policies is probably the weakest part of implementation, for both central and local governments. This may be due to a lack of sufficient cooperation between the various agencies involved or to the lack of social mobilization and capacity building to provide the requisite tools.

c. Crucial to planning and implementation of strategies and programmes is the availability of information on water resources. The absence of reliable information on sources, supply availability and use, and water quality limits the possibility for management of water demand, including efficient and equitable allocations of

water among competing and consecutive uses. The importance of water resources assessments is stressed by a number of countries, though financial and technical constraints hamper effective implementation.

d. In the majority of countries, government officials underline inadequacies in data exchange and networking, on both a regional and international basis.

e. Non-governmental organizations are taking on important roles at different levels, with regard to social mobilization, for training of local or regional representatives as counterparts for governments or private entities, and for exchange of information within and between countries and regions.

4. *Water and Mobilizing Financial Resources - building assets for the future*

a. In spite of the budgetary and financing implications, only a few countries appear to have addressed directly the necessity for adjustment of tariffs to enhance optimal water allocations and consumption and to achieve full cost recovery including capital costs. This appears to be in contradiction with the commitment perceived in most countries for financial autonomy of utilities and/or privatization.

b. In many countries, the levels of unaccounted-for-water seem to indicate a lack of coherent management of utilities including insufficient attention to operation and maintenance. The same holds for the lack of a focus on demand management.

c. In a number of countries, non-traditional ways of funding and operation of water facilities have been introduced. Where viable (i.e. economically sustainable) operations are achieved, semi-autonomous entities can make use of private financial resources. There is scope for replicating good examples in the area of water supply to the area of liquid waste management.

d. Water supply has shown to be an important factor in increased opportunities for income generation, especially for woman, in small scale urban and rural economy.

e. Mobilizing financial resources for water supply has not been translated so far to similar attempts in the area of sanitation.

5. *Water and The World - promoting international support*

a. There is a basic satisfaction with the forms of support provided by external support agencies (ESAs). There are indications though of a lack of full compliance by ESAs with governments' policies and strategies. Specifically, the following timeworn problems were mentioned: donors dealing directly with recipient communities, bypassing the central government mechanisms for programme management; unadapted hardware (technology), which could neither be serviced nor repaired in-country; tight deadlines for the provision of ESA support, which do not take into sufficient consideration such "software" issues as the time needed to mobilize and sensitize a community; donor mandated technological options or levels of service (e.g. handpumps), which do not take into consideration the

communities' expressed priorities for service levels, in spite of their assurances of willingness and ability to pay. In addition, some representatives of ESAs mentioned lack of consultation with others, leading to overlapping or incoherence in the delivery of support to government.

7. RECOMMENDATIONS

The Forward Looking Assessment has found widespread adoption of the principles and approaches contained in the Noordwijk Action Programme on Drinking Water and Environmental Sanitation, which was endorsed at the second session of the Commission on Sustainable Development in May 1994. However, many countries still give a disappointingly low priority to investments in improved water supply and investments in sanitation remain even lower. Current investment levels are well below what is needed to reach the goal of universal coverage in an acceptable timescale. In particular, the continuing neglect of sanitation poses an increasing threat to human health and is leading to escalating pollution of precious freshwater resources.

Analysis of the current water supply and sanitation situation suggests that governments and external support agencies need to adopt strategies which address five critical aspects of sustainability:

- **Social sustainability**

  Consideration needs to be given to equity and effectiveness in achieving the social goals of improved health and quality of life, with emphasis on the urban and rural poor. Social sustainability also requires awareness raising, full stakeholder participation in planning and management of programmes, and gender-sensitive approaches which assure the optimum involvement of men and women at all levels in decision making.

  In the Noordwijk Action Programme and in the detailed recommendations below, the specific issues relating to social sustainability can be found primarily under the heading "Water and People".

- **Environmental sustainability**

  Inadequacies in water supply, sanitation and wastewater treatment have a highly damaging impact on the living environment, on biodiversity, and on the long-term sustainability of groundwater and surface water resources for all uses. Achieving environmental sustainability involves adopting an integrated approach to the management of freshwater resources, using the hydrographic basin (river catchment or aquifer) as the management unit.

  In the Noordwijk Action Programme and in the detailed recommendations below, the specific issues relating to environmental sustainability can be found primarily under the heading "Water, Health and the Environment".

- **Institutional sustainability**

Many of the failures in past water and sanitation programmes relate to inadequacies in the institutional framework. In this context, the term "institutional sustainability" covers a wide range of linked issues. It includes, for example, the legislative, regulatory and enforcement environment in which water and sanitation agencies operate. It may also refer to the mechanisms for social networking among different stakeholders, and the traditions and customs through which decisions are made in urban and rural communities. The partnership approach now recognized as vital for sustainable progress requires a balance of power especially where decentralization or privatisation is involved, an enabling environment of effective institutions, legislation and regulation affecting all levels of society. In many countries, that means urgent programmes to build institutional capacity and develop human resources capabilities among all stakeholders.

In the Noordwijk Action Programme and in the detailed recommendations below, the specific issues relating to institutional sustainability can be found primarily under the heading "Water and Institutions".

- **Financial sustainability**

The many millions of people who presently lack water and sanitation services are also the poorest in the world. Their poverty is aggravated by the lack of basic services, and improved water and sanitation services represent a vital early step towards income generation and poverty alleviation, especially for women. With the important recognition that water is both a social and an economic good comes a critical balancing act for governments and implementing agencies: how to give priority to enabling the unserved poor to gain access to affordable water and sanitation services, while assuring a sustainable flow of funds to manage and expand services for all people. The solutions involve key principles of cost recovery, variable tariffs, innovative mechanisms of resource mobilization and credit systems.

In the Noordwijk Action Programme and in the detailed recommendations below, the specific issues relating to financial sustainability can be found primarily under the heading "Water and Mobilizing Financial Resources".

- **Technical sustainability**

Choice of technology and service level for different groups of water users has a critical influence on the sustainability of water and sanitation systems. A legacy of derelict or malfunctioning systems provides ample evidence of the need for careful consideration of technological issues. A wide range of technologies exist and there is evidence that countries are starting to learn the lessons of past failures and now involve beneficiaries closely in the selection of appropriate affordable technologies. User involvement is one key issue; compatibility with national norms and standards is another. There is also a need for further development of appropriate technologies particularly in the fields of low-cost sewerage and wastewater treatment, and for information sharing to ensure that successful technologies can be replicated and

adapted where necessary.

Issues relating to technical sustainability affect all sections of the Noordwijk Action Programme. In the recommendations which follow, specific issues can be found under the headings "Water and People", "Water and Financial Sustainability" and "Water and the World".

It is recommended that the Commission on Sustainable Development should urge all governments to review urgently their policy and strategies for water supply and sanitation development, giving special priority to programmes to meet the household sanitation needs of the urban and rural poor. The review should aim to ensure that sector policies and strategies adequately reflect the governments' commitments to implementation of Agenda 21 Chapter 18 and the Action Programme agreed at the Ministerial Conference on Drinking Water and Environmental Sanitation in Noordwijk, The Netherlands, in March 1994 and endorsed by the second session of the Commission on Sustainable Development in May 1994.

In particular, governments should satisfy themselves that their policy and strategies meet the following criteria:

1.WATER AND PEOPLE

They set realistic and achievable targets for meeting the essential water supply and sanitation needs of all their people at affordable cost, through approaches which involve all stakeholders in decision making and adopt a partnership approach to the planning, implementation and management of improvement programmes.

Specific recommendations in this regard are:

a- that governments give special priority to enabling communities to meet their basic sanitation needs, both as a means of safeguarding public health and to protect the quality of freshwater resources.

b- that a date be set for achieving the goal of universal water and sanitation coverage.

c- that responsibilities for water and sanitation services are established at a level as close as possible to the beneficiaries, and that they will be involved to the maximum extent possible in decision making and equipped via capacity-building programmes to accept responsibility for the operation, maintenance and future extension of the services.

c- that planning takes into account reliable replenishment of water resources via the water cycle, the various competitive and consecutive uses of fresh water (including the scope for recycling and reuse), and both its quality and quantity aspects in so far as they affect the interests of both upstream and downstream users.

d- that water demand management becomes a leading principle in water supply and environmental sanitation policies.

e- that government undertakes activities to increase awareness of the impact of pollution, wastewater and waste management in general on water quality and health and encourages non-governmental organizations to undertake complementary efforts.

3.WATER AND INSTITUTIONS

The institutional and legislative framework, enhanced as necessary by capacity-building initiatives and human resources development programmes, is adequate to support commitments to integrated water resources management, water conservation and demand management, stakeholder involvement, and delegation of authority to the lowest appropriate level

Specific recommendations in this regard are:

a- that adequate institutional arrangements are made within and between countries, where appropriate, to allow for planning and use of resources on a hydrographic-basin basis, as a shared resource.

b- that where responsibilities for different elements of basin management are divided among several agencies (e.g. local authorities, service utilities, autonomous agencies, national government), the mandate for each agency is clear and unambiguous. At each level of authority, it is necessary to assign responsibilities and powers for appropriate aspects of water management. The institutional framework must include mechanisms relating to allocating resources for different uses, for regulation and enforcement of standards for abstractions and wastewater discharges, for the financing and implementation of water conservation and protection measures, and for achieving financial and environmental sustainability.

c- that the institutional framework fosters the partnership approach among all stakeholders, while preserving the facilitating and regulating role of government and that capacity-building initiatives are included to ensure that all stakeholders including Non Governmental Organisations are equipped to undertake their roles in the most effective way.

d- that national academic institutions, training establishments and other influential centres of learning are able to play their part in capacity building, by including in their curricula the basic principles of sustainable water resources management. Capacity building should cover both technical aspects and institutional aspects including planning related to overall management of natural resources at central and regional levels.

e- that strategies recognize that involvement of the private sector in the provision and management of water and sanitation services is proving effective in many countries, but that it requires tight regulation by government, awareness raising in user communities, and, possibly, a professional code of ethics.

f- that an accurate assessment is made of the quality and quantity of available water resources and that consistent data on these key parameters are available to all agencies involved in water resources management.

g- that regular monitoring and analysis of data takes place in a systematic way, enabling consistent data to be shared by all agencies involved in programmes affecting basin management. This may well require extension and/or rehabilitation of hydrological monitoring networks and capacity building to establish the networks to analyse and disseminate data on water quantity and quality. Monitoring should include the potential yield and quality trends in rivers and ground water resources, with analyses including forecasting future trends and providing data for improved management, drought mitigation and demand management.

4.WATER AND MOBILIZING FINANCIAL RESOURCES

Water supply and sanitation investments are financed in a sustainable way, using innovative financing mechanisms, applying the "user pays" and "polluter pays" principles, mobilizing all possible local resources and achieving optimum cost recovery from users while ensuring that the unserved poor gain access to affordable services.

Specific recommendations in this regard are:

a- that all possible national sources of finance for water supply and sanitation investments are explored, including, for example, use of the bond market, private sector finance, loans from national banks, and the wider availability of credit for communities seeking to implement self-help programmes.

b- that national budgets for water supply and sanitation recognize the benefits which accrue from such investments in terms of income generation, health care savings, greater productivity and poverty alleviation.

c- that as water has already been recognised as a social and an economic good, maximum possible cost recovery is needed, to provide for operation and maintenance, and for investment and replacement of infrastructure, using innovative mechanisms where needed to protect the interests of lower income groups and to accelerate progress towards universal coverage goals.

d- that all measures be taken for efficient use of limited water resources and efficient supply and delivery of services for the different and sometimes consecutive uses of water (potable supplies, agriculture, animal husbandry, industry, regulation and quality control to protect biodiversity, etc).

e- that similar economic and efficiency principles are applied for all uses of water, including realistic pricing of water for agricultural production, industrial use and the protection of biodiversity.

f- that government and external support agencies foster transfer of knowledge and experience in appropriate technology breakthroughs and non-conventional approaches to water supply and sanitation and stimulate their application.

5. WATER AND THE WORLD

Support from the UN system, external support agencies, non-governmental organizations, national and international financing institutions, and other public or private sources responds to priorities set by government and is used effectively in ways which ensure compatibility with national policy and strategies.

Specific recommendations in this regard are:

a- that external support agencies and non-governmental organizations work in partnership with government, adopt approaches and policies based on the integrated management of water resources and provide technical and financial support for projects and programmes consistent with those approaches.

b- that mobilization of national and local sources of finance should be the starting point for financing investments in water supply and sanitation, with external support used to supplement and enhance these sources and to help build national self-sufficiency.

c- that government and external support agencies, working together, actively support the transfer and exchange of knowledge and experience on successful approaches in the fields of technology, institutional development, basin planning and intersectoral collaboration, nationally and internationally, using national expertise to help in the transfer and adaptation of proven solutions in different environments.

d- that governments and ESAs recognize the important social benefits which arise from investments in improved water supply and sanitation and so accord appropriate priority to these investments in their social development budgets. An example would be those governments and ESA's that have adopted the 20/20 initiative agreed at the Social Summit in Copenhagen in 1995 to guide their development investments.

e- that, taking into account the perceived needs, at country level, for the strengthening of data exchange and networking, on both a regional and global basis, international bodies like the Water Supply and Sanitation Collaborative Council (WSSCC), the Global Water Partnership and World Water Council already active in this domain, are urged to give this issue the necessary priority in their future programmes.

6. General recommendations

a- that CSD seeks to mobilize support from governments and external support agencies for the compilation of an inventory of representative case studies of successful water and sanitation initiatives consistent with Chapter 18 of Agenda 21.

b- that support also be sought for the implementation of pilot projects to demonstrate the five sustainability elements described at the start of these recommendations (UNDP may be willing to coordinate this activity).

- that CSD decides to continue the evaluation process of follow-up to the Noordwijk Action programme, so that CSD can obtain regular global reports on progress towards the goals of Chapter 18 of Agenda 21. In this respect, it is suggested that countries be invited to collaborate in the evaluation process.